

**Assumptions:**

- \* Streamflows were adjusted to the March Final Water Supply Forecast for the period of March thru August of 63.5 MAF at The Dalles (62% of average) and shaped 69 different ways based on observed historical runoff.
- \* Starting elevations were observed data from February 28, 2005.
- \* Grand Coulee drafts to 1255 ft in March for drum gate maintenance. Coulee tries to meet 70,000 cfs at Priest Rapids in Apr1, 110,000 cfs in Apr2, and 130,000 cfs in May while not drafting below 1240 ft. In June the project tries to meet 90,000 cfs in June at Priest Rapids, but fills to at least 1285 ft and up as high as 1290 if flows are above 90,000 cfs. Summer BiOp drafts are 1282.5 ft in July and 1278 ft in August.
- \* Hungry Horse operates to VARQ flood control or minimum flow from Jan - May and meets minimum flow of 3250 cfs at Columbia Falls, targets full in June, and drafts to 3540 ft by 31 Aug.
- \* Brownlee operates to flood control elevations, which is elevation 2077 ft (or full pool).
- \* Dworshak targets elevation 1587.5 ft in Mar, 1595.7 ft from Apr 15 - 30 and targets full in June. DWR drafts to 1534 ft by 31 Aug.
- \* Libby operates on minimum flow or VARQ flood control Jan - May, targets full in June with a minimum flow of 14,500 cfs out in June for sturgeon, based on last years requested sturgeon flows. Libby drafts to 2439 ft by 31 Aug, with a minimum bull trout flow of 7,000 cfs.

**Results:**

Priest Rapids Meets the Following Flow Objectives:

| Month  | Occurrences out of 69 Years | Average Flow for 69 Years (kcfs) | Flow Objective* (kcfs) |
|--------|-----------------------------|----------------------------------|------------------------|
| Mar    | 69                          | 93                               | 65                     |
| Apr 15 | 68                          | 72                               | 65                     |
| Apr 30 | 30                          | 95                               | 110                    |
| May    | 20                          | 117                              | 130                    |
| Jun    | 62                          | 101                              | 90                     |

\* Note: Flow objectives listed may be less than what is prescribed in the BiOp but were used for modeling.

Lower Granite Meets the Following Flow Objectives:

| Month  | Occurrences out of 69 Years | Average Flow for 69 Years (kcfs) | Flow Objective* (kcfs) |
|--------|-----------------------------|----------------------------------|------------------------|
| Apr 30 | 0                           | 37                               | 85                     |
| May    | 0                           | 55                               | 85                     |
| Jun    | 2                           | 49                               | 73                     |
| Jul    | 0                           | 29                               | 50                     |
| Aug 15 | 0                           | 23                               | 50                     |
| Aug 31 | 0                           | 22                               | 50                     |

Bonneville Meets Flow Objectives of 125 kcfs in Feb - Apr:

| Month  | Occurrences out of 69 Years | Average Flow for 69 Years (kcfs) |
|--------|-----------------------------|----------------------------------|
| Mar    | 57                          | 138                              |
| Apr 15 | 33                          | 126                              |
| Apr 30 | 56                          | 152                              |

McNary Meets the Following Flow Objectives:

| Month  | Occurrences out of 69 Years | Average Flow for 69 Years (kcfs) | Flow Objective* (kcfs) |
|--------|-----------------------------|----------------------------------|------------------------|
| Apr 30 | 0                           | 138                              | 220                    |
| May    | 0                           | 171                              | 220                    |
| Jun    | 0                           | 147                              | 220                    |
| Jul    | 1                           | 162                              | 200                    |
| Aug 15 | 0                           | 113                              | 200                    |
| Aug 31 | 0                           | 112                              | 200                    |

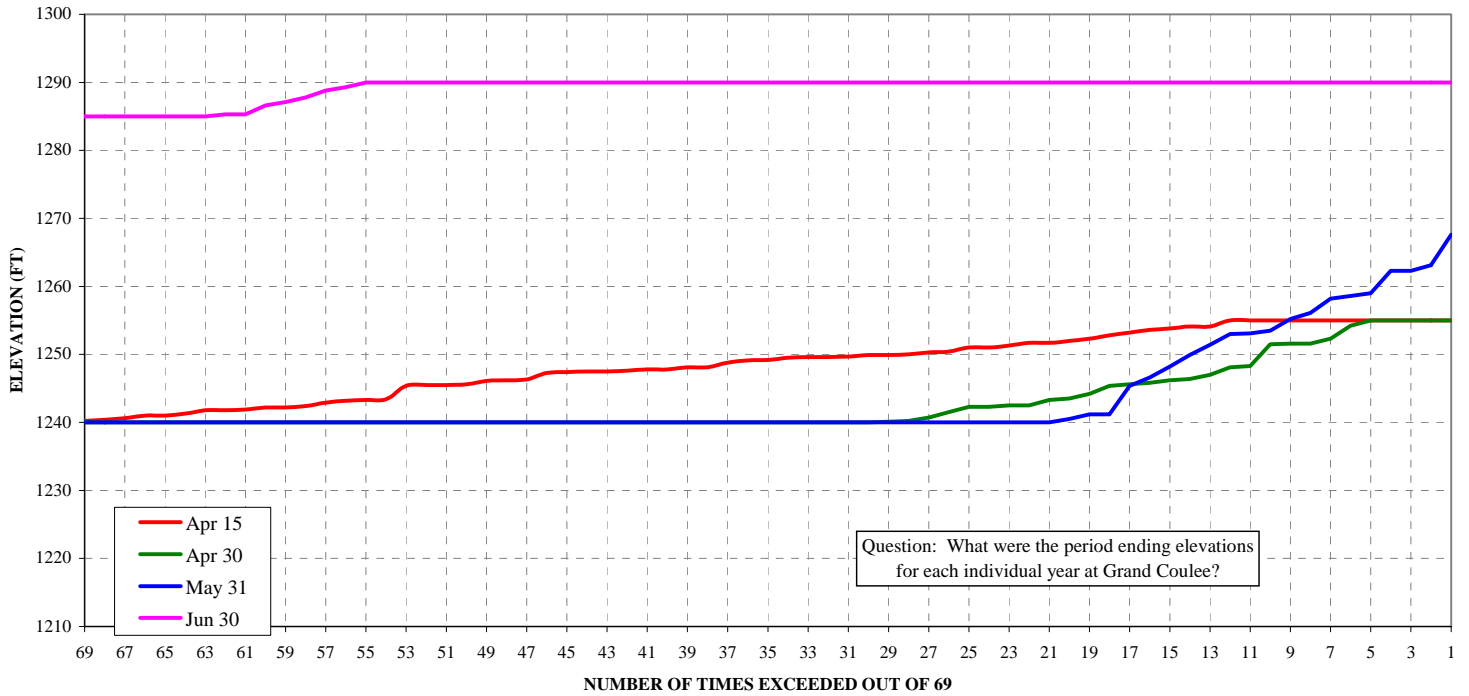
Projects Refill by 30 June:

| Month        | Occurrences out of 69 Years | Average Elevation on 30 Jun for 69 Years |
|--------------|-----------------------------|--|
| Libby        | 69                          | 2459                                     |
| Hungry Horse | 69                          | 3560                                     |
| Grand Coulee | 57                          | 1289                                     |
| Dworshak     | 69                          | 1600                                     |

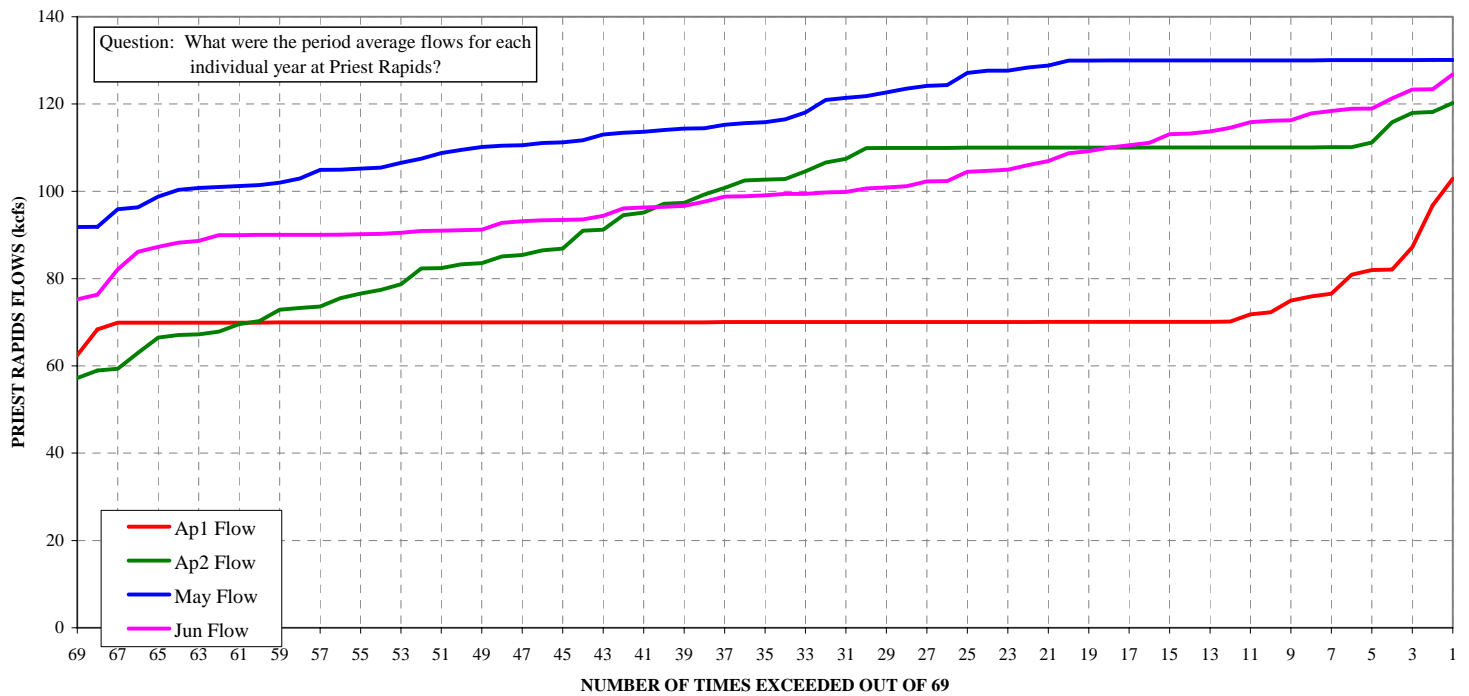
Period Average Flows (kcfs):

|     | FEB 1-28 | MAR 1-31 | APR 1-15 | APR 16-30 | MAY 1-31 | JUN 1-30 | JUL 1-31 | AUG 1-15 | AUG 16-31 |
|-----|----------|----------|----------|-----------|----------|----------|----------|----------|-----------|
| LIB | 4.0      | 4.0      | 4.0      | 4.0       | 5.8      | 21.3     | 21.5     | 19.4     | 16.5      |
| HGH | 1.0      | 2.2      | 0.5      | 0.5       | 5.0      | 6.1      | 5.8      | 5.4      | 4.2       |
| GCL | 101      | 90       | 70       | 93        | 113      | 97       | 138      | 93       | 92        |
| PRD | 111      | 93       | 72       | 95        | 117      | 101      | 138      | 92       | 91        |
| DWR | 1.6      | 1.5      | 1.6      | 2.1       | 6.8      | 5.2      | 10.0     | 10.0     | 9.4       |
| BRN | 10       | 12       | 14       | 14        | 14       | 12       | 9        | 9        | 9         |
| LWG | 21       | 22       | 31       | 37        | 55       | 49       | 29       | 23       | 22        |
| MCN | 134      | 124      | 114      | 138       | 171      | 147      | 162      | 113      | 112       |
| TDA | 140      | 134      | 122      | 148       | 175      | 149      | 164      | 115      | 113       |
| BON | 138      | 138      | 126      | 152       | 177      | 151      | 165      | 117      | 115       |

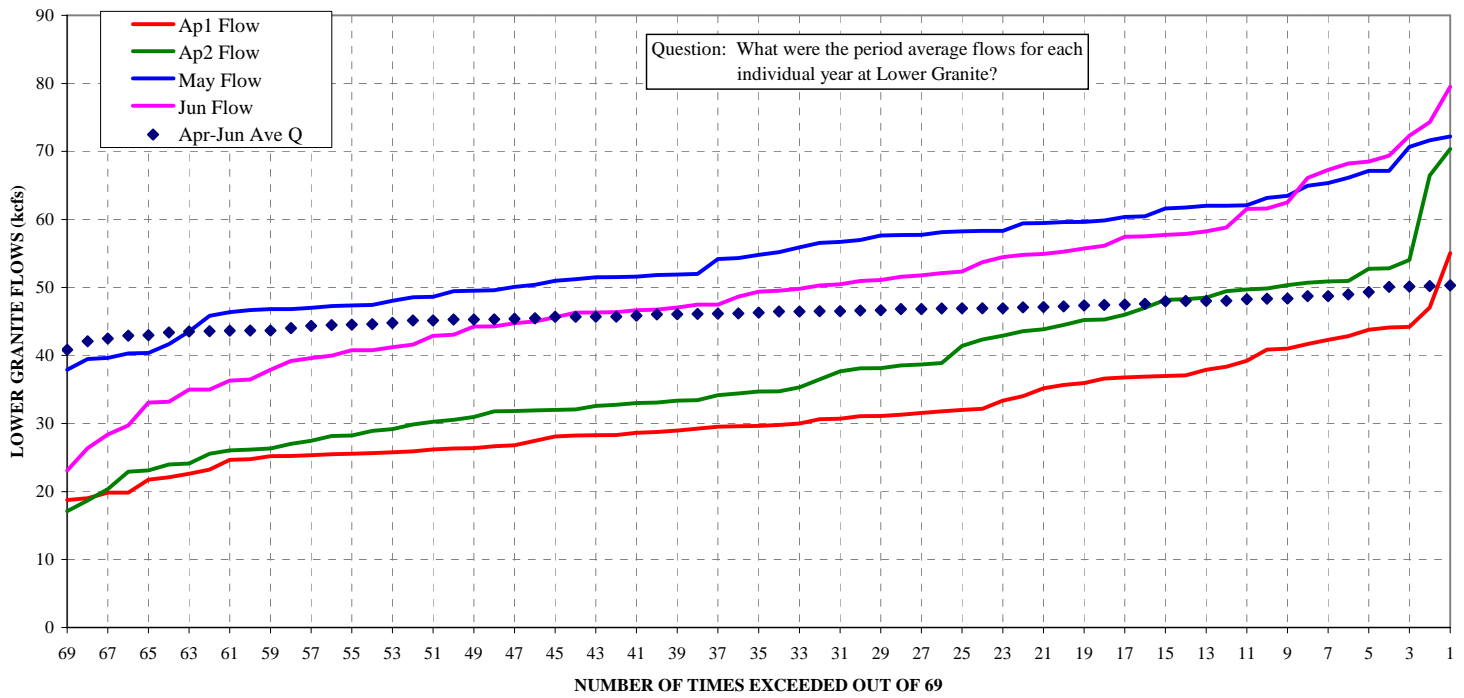
# GRAND COULEE LAKE ROOSEVELT ELEVATIONS



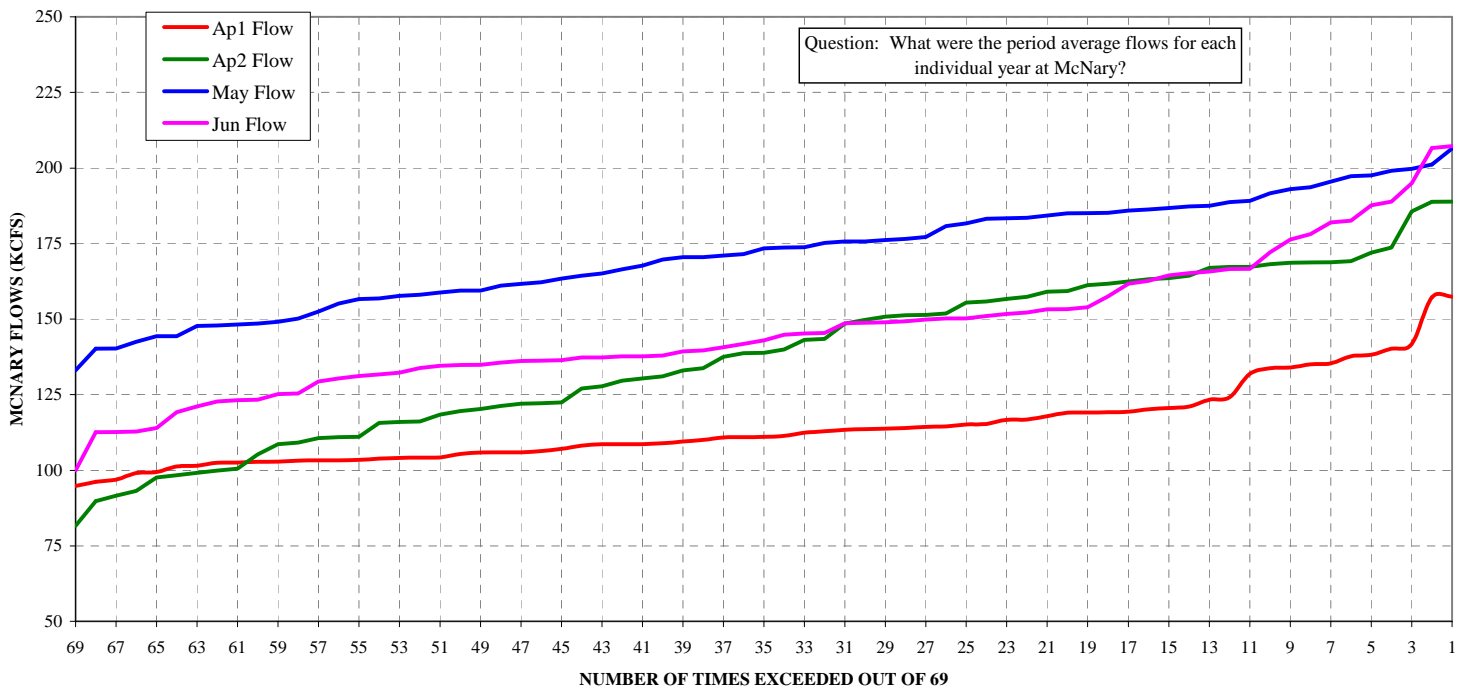
# PRIEST RAPIDS APRIL - JUNE FLOWS



### LOWER GRANITE APRIL - JUNE FLOWS



### MCNARY OUTFLOW APRIL - JUNE AVERAGES



# BONNEVILLE OUTFLOW

## March and April Flows

